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Abstract

Turbulence in foreign exchange markets and currency dumping/manipulation cultivate further mistrust in international economic relations. At the same time, both phenomena could potentially prove to be a cause of systemic risk. For example, foreign currency exposures were a key vulnerability behind the series of emerging market crises in 1997-98. The global financial crisis of 2008 also showed that currency mismatches are not just a concern for emerging markets. This chapter argues that currency mistrust exposes as flawed the notion that an international financial order may exist separately from the global monetary and trade and investment orders on a self-standing basis through the technocratic standards promulgated by the Basel Committee and the Financial Stability Board, notwithstanding the importance of such standards. While said separation achieved a great deal in terms of integration of regulation and governance of international finance in the past three decades, at the same time, it has worked to promote financialization and the global shadow banking sector. The paradox of the separation of the three international economic orders, albeit for defensible reasons, has given rise to massive rent-seeking by the global financial services industry. It has also undermined all efforts to create coherent international structures for the governance and regulation of global finance, since these could be defended only if they were seen as integral mechanisms to buttress the global trade and investment order. Finally, the chapter proposes a transparent and objective benchmark for the approximation of currency values which could be the first step towards the reversal of the current trend towards currency and trade wars. Such reversal is the sole path towards rebuilding the trust required to augment the governance structures of global finance.

Keywords

International finance, currency wars, currency manipulation, shadow banking, global financial governance, carry trades, financial instability, financial crises

The Incomplete Global Financial Order and Spillovers from Instability in Trade and Currency Market Regimes

Emilios Avgouleas

10.1 Introduction

10.1.1 The Problem

Instability in foreign exchange markets, and currency dumping/manipulation by means of devaluations, or via excessively loose monetary policies (so-called “beggar thy neighbor” policies) seem to be at the heart of today’s looming trade wars and accusations and counter-accusations between the world’s four main trade blocs: the USA, EU, China and emerging markets such as Brazil. In the financial sector, on the other hand, exposure to foreign currency borrowing and currency mismatches can be a cause of systemic risk. For example, foreign currency exposure was a key vulnerability behind the series of emerging market crises in 1997–1998.¹ The Global Financial Crisis also showed that currency turmoil is not just a concern for emerging markets. Greater foreign currency exposures increase country vulnerability to sudden shocks and currency depreciations, limiting the ability of the exchange rate to act as a shock absorber as well as the ability of monetary policy to support the economy (as interest rates may need to be adjusted at a higher level to support the currency, rather than be cut to boost domestic demand). In fact, instability in foreign exchange markets and currency dumping can act as a stimulus vis-à-vis sudden reverses of short-term capital flows cultivating further mistrust in international economic relations. Such mistrust exposes as flawed the notion that an international financial order can exist independently of the global monetary order and trade and investment, on a self-standing basis, through the technocratic standards promulgated by the wise heads of the Basel Committee and the Financial Stability Board (FSB) (notwithstanding the importance of such standards). Separation of the three international economic orders achieved in the first three decades a great deal in terms of integration of regulation and governance of international finance. Not only has discussion between regulators in the fora of the G-20, the FSB, and the

¹ See for an overview R. Buckley, E. Avgouleas, D. Arner, “Three Major Financial Crises: What Have We Learned,” *AIIFL Working Paper No. 31*, UNSW Law Research Paper No. 18-61, 14 Sep 2018.

Basel Committee progressed vis-à-vis setting globally accepted financial standards, because they avoided last decade's vexed discussions on international trade,² but also much needed international cooperation in the aftermath of the Global Financial Crisis (GFC) did not have to stumble over unresolved (but not unrelated) trade issues.

At the same time, this separation has, arguably, worked to promote financialization and the global shadow banking sector, since cross-border financial and especially currency transactions are regarded as separate from trade and long-term investment activity in global markets.³ Arguably, the paradox of the separation of the three international economic orders, albeit for defensible reasons, has given rise to massive rent-seeking by the global financial services industry and the rentier investor classes. It has also weakened the case for free trade, since trade and investment are subject to different legal orders separate from those underpinning cross-border financial flows, although it is the latter that have emerged as the most potent integrative force for the global economy. Same fragmentation has also undermined any efforts of creating coherent international structures for the governance and regulation of global finance.⁴ For these to progress to the next stage concrete governance structures would have to replace the current "soft law" status quo, but such a move would only be defended/upheld if such structures were seen as integral in buttressing the global trade and investment order.

² E.g., the so-called Doha Round for trade liberalization has made little progress from its inception at the 2001 Doha WTO Ministerial summit (Doha WTO Ministerial 2001: Ministerial Declaration WT/Min(01)/Dec/1, 20 November 2001) up to the middle of 2018, and if anything the predictions on its progress is increasingly pessimistic. For more analysis on the subject matter and scope of this round of trade negotiations, see WTO, "The Doha Round," www.wto.org/english/tratop_e/dda_e/update_e.htm.

³ One example is the exponential rise of global money market broker-dealers, another the direct recycling of the huge cash reserves of multinational corporations. See Z. Pozsar, "Shadow Banking: The Money View," Office of Financial Research, Working Paper 14-4, 2 July 2014, <http://wisburg.com/wp-content/uploads/2018/02/OFR-Shadow-Banking-The-Money-View.pdf>.

⁴ In this context, far-reaching yet comprehensive international financial governance designs for a world financial council like those contained in the Report of the Commission of Experts of the President of the United Nations General Assembly on Reforms of the International Monetary and Financial System (New York: United Nations, 21 September 2009), www.un.org/ga/econcrisissummit/docs/FinalReport_CoE.pdf, also known as the "Stiglitz Report," simply came to pass. The same should be said of the opposition to the proposal for a World Financial Authority in K. Alexander, R. Dhumale, and J. Eatwell, *Global Governance of Financial Systems: The International Regulation of Systemic Risk* (Oxford: Oxford University Press, 2006). For another equally far-reaching but more complex and pluralistic global financial governance design, see E. Avgouleas, *Governance of Global Financial Markets: The Law, the Economics, the Politics* (Cambridge: Cambridge University Press, 2012), chap. 9.

10.1.2 Setting the Scene

Today, however, with mistrust of the post-1994 global trade status quo⁵ at record levels and with efforts for greater integration of the international financial order having come to a halt, some radical rethinking is overdue. Arguably, the agreement of the FSB loss-absorption standards for Globally Systemic Banks (G-SIBs),⁶ which has included an extended transition of emerging market G-SIBs, is an indication of widespread consensus within the global regulatory community. But still that was in 2014–2015, and meaningful cooperation on other looming issues, such as reining in the riskiest forms of shadow banking, or cooperation in derivatives clearing and settlement, has moved way beneath the radar. And it will be very hard for these discussions to be resuscitated in today's trade environment. It's unrealistic to believe that finance ministries and central banks, accusing each other of currency manipulation, triggering currency wars, and ferociously undermining or unraveling key parts of the present trade order, would be enlightened enough⁷ to sit down in the refined environment of the FSB, the G-20, the IMF/World Bank synods and the Basel Committee to thrash out new and closer forms of cooperation and integration in the field of international financial regulation. Any sound political economy approach to the workings of these fora would argue that such lofty ideals are in the past and have not been evident at least since the GFC aftermath in 2008. As a matter of fact, it is now an accepted convention that the first wave of Basel capital regulations (so-called Basel I) were not just an attempt to shore up the resilience of international banks, but also a concerted attempt by Western regulators to contain the competitive threat of Japanese banks.⁸

On the basis of the above analysis, this chapter moves away from standard scholarly analysis that has mostly focused on cooperation in the field of international financial regulation, which makes up the bulk of the international financial order, with the balance filled by anti-money

⁵ Arguably, this was heralded by the inception of the World Trade Organization (WTO) after the conclusion of the Uruguay Round of trade negotiations with the signing of the Marrakesh Agreement in April 1994 and of the North American Trade Agreement (NAFTA) which came into force on 1 January 1994.

⁶ See FSB, "Total Loss-Absorbing Capacity (TLAC) Principles and Term Sheet," 9 November 2015, www.fsb.org/2015/11/total-loss-absorbing-capacity-tlac-principles-and-term-sheet/.

⁷ On the interests that national regulators defend in the international regulatory fora, see Avgouleas, *Governance of Global Financial Markets*, chaps. 4–5 and Federico Lupo-Pasini, *The Logic of Financial Nationalism: The Challenges of Cooperation and the Role of International Law* (Cambridge: Cambridge University Press, 2017), chap. 2.

⁸ Avgouleas, *ibid.* On how the interests of their domestic industry have weighted on the motivation and actions of US regulators in the international financial standard setting fora see S. Gadinis, "The Politics of Competition in International Financial Regulation," John M. Olin Centre, Discussion Paper No. 15, June 2008, www.law.harvard.edu/programs/olin_center/fellows_papers/pdf/Gadinis_15.pdf.

laundering and accounting (financial reporting) standards issued by soft law international standard-setting bodies. It will, thus, explore the risks that instability in currency markets, and the absence of an anchor since the collapse of the Bretton Woods system, pose an insurmountable obstacle to all further integration efforts, since it would be very hard for different regulators to open up their financial systems, or cooperate more closely, when at the same time their governments accuse each other of currency wars and trade manipulation.⁹ Accordingly, the objective of this chapter is two-fold. First, to highlight the importance of the much neglected – since the collapse of the Bretton Woods arrangement in 1972 – aspect of the International economic order for global financial stability from a political economy perspective. Secondly, to argue that a system of more objective benchmarks of value could act as a partial stabilizer in the case of short-term capital flows augmenting trust between cross-border financial stability regulators and policy-makers. Even if the panic is about the stability of the country's financial sector and the quality of assets held in that financial sector, still the much-feared panic outflows can be slower, absent capital controls, when the indication of currency values is less unstable or uncertain.

The second objective of this chapter is to sketch the possible building blocks that may be used to construct a system or more objective benchmarks/measures of value when it comes to currency parities. Given of course the global experience with the gold standard and the Bretton Woods system of currency parities, any new mechanism must steer away from measures that would restrict currency circulation and prove deflationary. Similarly, a system of fixed parities that would break up in the face of trade imbalances, as happened with Bretton Woods parities in 1971–1972, should be avoided.

Any attempt to highlight the role of currency markets/parities as a means to further the integrative and cooperative goals of the global financial architecture inevitably encounters nearly insurmountable obstacles. First, even if there is such a thing as regulatory standard neutrality in global financial architecture, any shift of the debate to the field of currency exchange governance takes the discussion away from the (ostensibly) technocratic zone that global financial governance structures/standards occupy, to the realm of geopolitics.

⁹ E.g., China took some major steps towards the liberalization of foreign ownership in its financial sector, which it de facto overturned with new measures that require a very high asset threshold for foreign firms that wish to operate within its financial system – a U-turn that mainly affects US firms and probably has much to do with fears of destabilization if there is a capital flight from its markets, as happened in the summer of 2016, as much as with the blistering rhetoric and US sanctions over PRC exports. See G. Wildau, H. Lockett, “China pledges to open finance sector to more foreign ownership” FT.com, 10 November 2017. Cf D. Weinland, E. Dunkley, “China regulators slow to open up say global banks – Beijing’s new rules threaten plans to take controlling stakes in securities ventures,” FT Companies and Markets, 25 April 2018, p. 16.

Secondly, in the current climate, where economic nationalism and protectionism are unmistakably on the rise, such a discussion could look futile. And this even before one begins to deal with the hardcore economic aspects of global FX markets and their impact on competitive and comparative advantage in the global trade context, a discussion that is firmly outside the scope of this chapter. Third, any attempt to discuss a comprehensive currency exchange mechanism that incorporates, *prima facie*, objective benchmarks, is from the outset hamstrung by the burden of history.

Finally and more critically, some currencies that are so-called reserve currencies, e.g., the US dollar, the euro, the Japanese yen, the Chinese RMB, may represent value that goes beyond economic fundamentals. Namely, regardless of whether reserve currencies have been designated as such due to the economic might of the issuing state and the regular use of the currency in international payments, parities for such currencies do not merely reflect economic fundamentals, but also the geopolitical importance of the issuing state. But if no objective benchmark of value were to apply to the most common reserve currencies, what would be its utility after all? As a consequence one needs to think long and hard before endeavoring to draft an intervention in this area. To this effect I offer three reasons for doing so here.

First, while no system of measurement of currency values is perfect, still the use of a system that compares a number of different parities with the IMF's Special Drawing Rights basket of currencies¹⁰ and fundamentals can undoubtedly be a measure of value that is well adjusted to market and geopolitical forces. Secondly, the emergence of cryptocurrencies and other tradable electronic units/tokens offers a unique opportunity to structure more objective reference points of currency values. Thus, the indexes incorporated in the here-suggested global unit of account (GUOA), which are simple and tradable and can be calculated by reference to the value of IMF's SDRs¹¹ can provide clear guidance without discarding the

¹⁰ The IMF's SDRs are an international reserve asset, serving as the unit of account of the IMF and some other international organizations. The SDR is neither a currency nor a claim on the IMF. Rather, it is a potential claim on the freely usable currencies of IMF members. SDRs can be exchanged for these currencies. Currently the value of the SDR is based on a basket of five currencies – the US dollar, the euro, the Chinese RMB and the British pound. SDR allocations can play a role in providing liquidity and supplementing member countries' official reserves, as was the case with the 2009 allocations totalling SDR 182.6 billion to IMF members amid the global financial crisis. See IMF Factsheet, "Special Drawing Rights," 18 April 2018.

¹¹ The value of the SDR is determined daily based on market exchange rates. It is determined by tallying the value of the composite currencies in US dollars. IMF Data sheet, "SDR Valuation," 27 April 2018. The SDR basket is reviewed every five years, or sooner if warranted, to ensure that the SDR reflects the relative importance of currencies in the world's trading and financial systems. The reviews cover the key elements of the SDR method of valuation, including criteria and indicators used in selecting SDR basket currencies and the initial currency weights used in determining the amounts (number of units) of each currency in the SDR basket. These currency amounts remain fixed over the five-year SDR valuation period, but the actual weights of

known methods of measurement of currency values in economics, such as purchasing power parity and so on. Third, unlike the gold standard and other physical commodity anchors used in the past to measure the value of currencies, modern-day benchmarks need not be deflationary, as tokenized benchmarks can instead reflect fundamental properties of fiat money.

This paper is in five sections with the present introduction. Section 10.2 discusses the valuation intricacies of international currencies and the thorny questions of currency wars and their impact on trade. Section 10.3 discusses the financial stability risks of currency market instability. Section 10.4 discusses remedies under the existing IMF and WTO legal orders, and the possibility of inserting clauses and remedies against currency manipulation in future bilateral and multilateral agreements, or even amending existing ones to this effect. It also offers a concise discussion of an alternative valuation method. Section 10.5 draws the different strands of the present analysis to a comprehensive conclusion.

10.2 Reserve Currencies, Currency Wars and Currency Manipulation

10.2.1 Mars or Mercury?

The identification of reserve currency values/parities is wide open to the so-called Mars and Mercury debate.¹² The Mercury approach/hypothesis emphasizes pecuniary motives and also highlights the importance of currency safety, liquidity, network effects, trade links, and financial connections. This method may explain why some currencies are used disproportionately as a medium of exchange, store of value and unit of account by governments and private entities engaged in international trade and cross-border financial transactions.¹³

currencies in the basket fluctuate as cross-exchange rates among the basket currencies move. The reviews are also used to assess the appropriateness of the financial instruments comprising the SDR interest rate (SDRi) basket. This is also important as the SDRi provides the basis for calculating the interest rate charged to members on their non-concessional borrowing from the IMF. See IMF Factsheet, “Special Drawing Rights,” 18 April 2018.

¹² See B. Eichengreen, A. Mehl and L. Chițu, “Mars or Mercury? The geopolitics of international currency choice,” NBER Working Paper 24145, December 2017, www.nber.org/papers/w24145.pdf and their Vox blog: “Mars or Mercury? The geopolitics of international currency choice,” 02 January 2018, <https://voxeu.org/article/geopolitics-international-currency-choice>. See also the impressive analysis of the mechanics of international currencies in B. Eichengreen, A. Mehl and L. Chițu, *How Global Currencies Work: Past, Present, and Future* (Princeton NJ: Princeton University Press, 2017).

¹³ See M. Chinn and J. Frankel, “Why the Euro Will Rival the Dollar,” *International Finance* 11 (2008), 49–73.

There is also another approach that is put forward by political economists, and applied mainly to the choice of reserve currency or currencies. This emphasizes strategic, diplomatic, and military power (together defined here as geopolitical power). If a country has such geopolitical power, foreign governments will see it to be in their national interest to conduct their cross-border transactions using its currency.¹⁴ The leading power for its part will possess political leverage with which to encourage the practice. In other words, international currency choice is from Mars rather than Mercury. As Barry Eichengreen and his co-authors accurately observe, this hypothesis helps to explain some otherwise perplexing aspects of the currency composition of international reserves.¹⁵ Naturally the Mars view casts a question mark on measurements of currency value that focus exclusively on trade surpluses/deficits, and gives credence to the quest for a more encompassing measure of value that wouldn't discount the geopolitical importance of reserve accumulation and parities.

10.2.2 Currency Manipulation and Currency wars

According to a Peterson Institute publication in 2012,¹⁶ until that point at least twenty countries had appreciably increased their aggregate foreign exchange reserves and other foreign assets mainly through intervention in the foreign exchange markets. The purpose was to keep the currencies of the interveners substantially undervalued, thus boosting their international competitiveness and trade surpluses. A former director of the Peterson Institute and former member of the US government's trade team added that:¹⁷

As the world's largest trading country, the United States is the largest loser from the manipulation of recent years. Because most of the intervention takes place in dollars, the dollar has been pushed to systemically overvalued levels. Bergsten and Gagnon (2012)

¹⁴ See, inter alia, B. Cohen, *The Geography of Money* (Ithaca NY: Cornell University Press, 1998); B. Cohen, *Currency Power: Understanding Monetary* (Princeton NJ: Princeton University Press, 2015); S. Liao and D. McDowell, "No Reservations: International Order and Demand for the Renminbi as a Reserve Currency," *International Studies Quarterly*, 60 (2016), 272–293.

¹⁵ "[The Mars hypothesis] helps to explain why Japan holds a larger share of its foreign reserves in dollars than China. It helps to explain why Saudi Arabia holds the bulk of its reserves in dollars, unlike another oil exporter, Russia. It helps to explain why Germany holds virtually all of its official reserves in dollars, unlike France. Germany, Japan and Saudi Arabia all depend on the US for security. China, Russia, and France, on the other hand, possess their own nuclear weapons as deterrents." See Eichengreen et al., *Vox* blog n. 12 supra.

¹⁶ C. Fred Bergsten, J. Gannon, "Currency Manipulation, the US Economy, and the Global Economic order," Peterson Institute Policy Brief 12–25, December 2012, <https://piie.com/sites/default/files/publications/pb/pb12-25.pdf>.

¹⁷ C. Fred Bergsten, "Currency Wars, the Economy of the United States, and Reform of the International Monetary System," Stavros Niarchos Foundation Lecture, 16 May 2013, <https://piie.com/sites/default/files/publications/papers/bergsten201305.pdf>.

estimate that the US current account deficit has averaged \$200 billion to \$500 billion per year higher as a result of the manipulation ... [it] translates into a loss of between one and five million US jobs within the environment of continuing high unemployment and shortage of alternative policy instruments to remedy the problem.

What US sources belatedly acknowledged, however, was that so-called currency manipulation also adversely affected large emerging economies such as Brazil, India and Mexico, but the source of their discontent was not intervention in foreign exchange markets on behalf of the biggest world economies, but rather expansive monetary policies, such as very low interest rates and quantitative easing (QE). These, while initiated in the period after the GFC, in fact continued for the best part of a decade afterwards. Arguably, QE and very low interest rates push down returns on domestic debt, rather than shaking confidence in the value of the currency per se. But as returns in local debt instruments diminish, investors can chase yield in debt assets denominated in other currencies, leading to a shift in the supply of excess funds to another country's economy. The exodus, however, triggers the readjusting of currency values, having a beneficial impact on the exports of the country that applies very lax monetary policies (the "devaluing" country) and harming the competitiveness of the country that does not follow the same kind of policy, possibly because it experiences a relatively high rate of inflation or good growth. Now this development not only hurts the second state's exports but it also raises the possibility of financial stability risks, since asset bubbles may form following the excess influx of foreign money.

It was thus under these conditions that the term *currency wars* resurfaced for the first time since the era of the Great Depression devaluations, gaining particular prominence when the Brazilian Finance Minister Guido Mantega used it to characterize the impact of US monetary policies on the trading parity of the US dollar.¹⁸ The same accusations were voiced against Japan by its Asian neighbors during 2012–2013, namely at the height of so-called Abenomics when the Bank of Japan raised its inflation target and implemented a massive program of asset purchases to increase liquidity and push up asset prices. Essentially, the representatives of developing economies extended the charge of currency dumping on developed countries' unconventional monetary policies. Namely the term currency manipulation has acquired a

¹⁸ See BBC, "Currency 'war' warning from Brazil's finance minister," 28 October 2010, www.bbc.com/news/business-11424864. See also T. Murphy and L. Magalhaes, "Brazil Minister Says Global Currency War Is Intensifying," *Wall Street Journal*, 23 February 2012, www.wsj.com/articles/SB10001424052970203960804577241460407096338.

meaning that goes much beyond state/central bank intervention in foreign exchange markets or purchase in bulk of foreign assets by domestic operators.

Accordingly, currency wars are the consequence of action taken by countries facing macroeconomic shocks (a recession/sustained period of weak growth), an imbalanced balance of payments (more imports than exports), and fiscal troubles (budget deficit) – sometimes all three – seeking to devalue their currency to gain a competitive advantage in terms of trade, or in the case of monetary expansion in order to stimulate domestic demand. However, in all of these cases trading partners or competing exporting countries become less competitive and may respond by weakening their own currencies too.

Some of these modern-day “beggar thy neighbor” policies, whether used by the US Federal Reserve to control deflation and stimulate a distressed economy, or by the Bank of Japan to revive an economy that had by then been stagnant for the best part of two decades, have as their principal objective the revival of domestic demand, rather than manipulation of trade surpluses/deficits. Regardless of the motive, currency instability discourages investment and trade in all scenarios, even if policies that aim to boost money supply in countries facing a recession and/or deflation could increase the level of imports. The latter are of course made more expensive by the implementation of expansive monetary policies and attendant falls in the value of the importing country’s currency.

10.3 Global Financial Stability Risks

10.3.1 Financialization and Shadow Banking

In general, shadow banking is a collection of unregulated institutions using a variety of debt instruments, credit enhancement and securities borrowing and lending techniques to extend credit and boost the liquidity of, in principle, illiquid assets and perform maturity transformation. Shadow banking is also a great booster of financialization, given the spaghetti of transactions and counter-transactions and the commission income that each of these generates for the financial sector, even if the funding is not sourced from the financial sector or not even from the capital markets. It may instead come from the real sector, both corporates and individuals, looking for a way to gain a return on cash reserves or to enhance the return on their savings. Namely, the various shadow banking channels are also a good way to recycle cash reserves, including FX reserves and direct saving away from productive investment. In fact, it seems that the bulk of this recycling and redistribution of liquidity does

not escape Lord Turner's old adage that most modern financial activity is wasteful. The accumulated and recycled cash reserves seem to be, while secular¹⁹ rather than cyclical, the result of forgone real economy investment.

It is thus not surprising that a large part of international FX transactions amount these days to the recycling of liquidity reserves through the use of global shadow banking channels.²⁰ One example is the exponential rise of global money market broker-dealers, another the direct recycling of the huge cash reserves of multinational corporations,²¹ which increases interconnectedness in a number of invisible ways.²² Given the increasing commingling of short-term debt with cash exposures, this recycling also increases short-term (but also long-term) borrowing and lending in a foreign currency. A panic in global FX markets may start from nothing more than falling bond prices and a market sell-off, and not just the widely discussed problem of debt refinancing in a foreign currency. In fact, Pozsar's study offers, in a different context, examples of the consequences of a bond market sell-off which, in the view of this author, could also trigger a panic in FX markets.²³

¹⁹ See Z. Pozsar, "Shadow Banking – The Money View," Office of Financial Research WP 14–04, 2 July 2014, www.financialresearch.gov/working-papers/files/OFRwp2014-04_Pozsar_ShadowBankingTheMoneyView.pdf.

²⁰ *Ibid.*, p. 60.

²¹ The numbers, as reported by Pozsar, are simply staggering: "First, on the global level, the secular rise of managed FX regimes in relation to the U.S. dollar is one explanation for the rise of cash pools held by FX reserve managers in the form of FX reserves' liquidity tranches, which are estimated at \$1.5 trillion. Second, on both the global and local levels, the largest global corporations are holding more cash than ever before, estimated at more than \$1.5 trillion. Unlike in previous decades, corporations today are net funding providers. There are many possible explanations for the increase in corporate cash pools. A likely contributing factor is the long-term secular increase in corporate profits as a share of national income, relative to wages. Corporations hold cash as a liquidity buffer for future investments; multinational firms may hold cash in foreign subsidiaries to defer or avoid taxes ..." Pozsar, *ibid.*, pp. 60–61.

²² E.g., Pozsar argues that the secular rise of shadow banking due to structural imbalances in the real economy has also turned broker-dealers to "matched-book money dealers that stand between cash pools in search for safety, and various kinds of leveraged bond portfolios across the asset management complex in search for yield" which of course brings unleveraged fund managers well into the net of the leveraged shadow banking system developing "deep linkages between shadow banking and asset management, including not only hedge funds but also what are assumed to be unleveraged, "long-only" mutual funds. Whereas cash pools' problem is the structural shortage of safe, short-term, public assets (a shortage of public money), real money investors' problem is structural asset-liability mismatches driven by the secular decline of yields on safe, long-term, public assets relative to "sticky" return targets/expectations. The secular rise of leveraged betas (that is, the secular increase in the use of both cash and synthetic forms of leverage in bond portfolios) has been asset managers' way of helping real money investors bridge structural asset-liability mismatches through the provision of "equity-like returns with bond-like volatility". See Z. Pozsar, "A Macro View of Shadow Banking: Levered Betas and Wholesale Funding in the Context of Secular Stagnation" Draft of 31/1/2015, pp. 2–3, <https://ftalphaville-cdn.ft.com/wp-content/uploads/2015/07/Pozsar-A-Macro-View-of-Shadow-Banking-Levered-Betas-and-Wholesale-Funding-in-the-Context-of-Secular-Stagnation.pdf>.

²³ "If all goes well with the risk PM's [Portfolio Manager's] plan, falling bond values would be offset by speedy cash collateral transfers on the swaps, keeping the TRB [Total Return Bonds] fund's net asset value stable amidst a temporary market sell-off, enabling the risk PM to outperform the benchmark. But what if the plan backfires? If, instead of a sell-off, unexpectedly positive data and hawkish policy comments spark a rally in EM and corporate spreads and a selloff in rates, the swaps intended as a hedge become a drain on the TRB fund's performance. Instead of harvesting cash collateral as a result of mark-to-market gains, the fund has to post cash collateral (as specified by its dealer) on mark-to-market losses before closing out the swaps. As a bond investor,

Even though Pozsar stresses the fact that most of the transactions are hedged/“insured” by means of repo transactions, still the absence of a liquidity backstop means that global FX markets hide global financial stability risks that are often underappreciated, covered in secrecy, or merely ignored. Given that these exposures are not just dollar denominated, and thus not merely dependent on the magnanimity of the Federal Reserve’s market operations, but involve multiple underlying monetary regimes.²⁴ In the event of a liquidity shock a number of these exposures may not be able to be rolled over. And the more frosty trade relations become, the less central bank or other state actor coordination will ensue in global FX markets. Nor are restrictive/controlled FX regimes the answer to this conundrum, as it is the bypassing of those regimes that has created many of those global money pools and facilitated the activities of global money brokers in the first place.²⁵

10.3.2 The Risks of “Carry” Trades

Similar concerns have been voiced about the risks of carry trades, a form of interest rate arbitrage between currencies.²⁶ While carry trades may earn a seemingly low-risk profit, since they receive higher interest rates on the money invested and pay lower interest rates on the money borrowed, a global unwinding of carry trades, as happened with Japanese yen trades,²⁷ can spell a string of defaults/bankruptcies for these highly leveraged traders. The

the TRB fund would carry only minimal cash balances, which it needs to hold for redemption purposes. Thus, to pay its counterparty (Dealer A), the fund has to repo some of its bonds to raise liquidity to settle derivatives payables.” Pozsar, “Shadow Banking – The Money View,” 39–40.

²⁴ E.g., carry trades in the non-dollar markets have been found to be riskier than carry trades only exposed to the US dollar. See K. Daniel, R. J. Hodrick, and Z. Lu, “The Carry Trade: Risks and Drawdowns,” Columbia Business School, mimeo, August 27, 2014, www0.gsb.columbia.edu/mygsb/faculty/research/pubfiles/6378/DanielHodrickLu2014.pdf.

²⁵ Pozsar, “Shadow Banking – The Money View,” p. 60.

²⁶ “Carry trading is one of the most simple strategies for currency trading that exists. A carry trade is when you buy a high-interest currency against a low-interest currency. For each day that you hold that trade, your broker will pay you the interest difference between the two currencies, as long as you are trading in the interest-positive direction... Trading in the direction of carry interest is an advantage because, in addition to your trading gains, there are also interest earnings. Carry trading also allows you to use leverage to your advantage.” John Russell, “Introduction to Carry Trading,” Balance.com, 24 January 2018, www.thebalance.com/introduction-to-carry-trading-1344843.

²⁷ The yen carry trade dominated FX markets in the 2000s, but a little after the collapse of Lehman Brothers in September 2008 and the triggering of what is now called the Global Financial Crisis, the unwinding of the yen carry trade commenced in earnest as speculators began to be hit with margin calls, since the prices of practically every asset began sliding. To meet the margin calls, assets had to be sold, putting even more downward pressure on prices. As credit conditions tightened dramatically, banks began calling in the loans, many of which were yen-denominated. Speculators not only had to sell their investments at fire-sale prices, but also had to repay their yen loans even as the yen was surging. In addition, the higher-yielding countries slashed interest rates to stimulate their economies, eliminating earlier gains. For a preliminary analysis see M. Hattori and, H. S. Shin, “Yen Carry Trade and the Subprime Crisis” 56(2) IMF Staff Papers 384–409, June 2009.

most inherent risk of carry trades is of course FX market uncertainty, namely, the fact that the exchange rate between the two currencies is changeable. The carry trade is profitable only if the high interest rate currency depreciates relative to the low interest rate currency by less than the interest differential. It seems that even hedging with currency options cannot eliminate this risk.²⁸ Another reason that accentuates risks in this case is that traditional finance science tools for risk measurement were conceived to measure capital markets and currency markets risk.²⁹ Either way, the risk and potential for contagious instability in global markets arising from these trades is far from theoretical. Empirical research has identified that short-term multicurrency investment strategies such as carry trade, momentum and term spread strategies present significant downside risk properties over historical episodes of financial market turmoil.³⁰ In fact, they exhibit substantial tail risks against which it is nearly impossible to hedge, especially because most of these strategies may be seen as complementary but, in fact, perform far from uniformly during distress periods in global markets. Worse, as equity market investments feature an even greater downside risk,³¹ a global equity portfolio would not be an adequate protection either.

Accordingly, foreign debt and not just FX market exposures can trigger instability in currency markets and beyond. In fact, they can be the source of currency value spirals in the absence of any fundamental reasons for currency movements.³² The fact that most of the investors will be highly leveraged can even give rise to a self-feeding spiral of defaults and further currency misalignment due to abrupt unwinding of currency swaps or carry trades to generate cash.³³ Combined, the aforementioned investment techniques can be the source of

²⁸ See Daniel, Hodrick, and Lu, "The Carry Trade: Risks and Drawdowns."

²⁹ C. Burnside, "Carry Trades and Risk," NBER Working Paper No. 17278 issued in August 2011, revised in December 2011, www.nber.org/papers/w17278.pdf.

³⁰ See J. Gyntelberg and A. Schrimpf, "FX strategies in periods of distress," BIS Quarterly Review, December 2011, 29 et seq., www.bis.org/publ/qtrpdf/r_qt1112e.pdf.

³¹ Ibid.

³² "We conjecture that sudden exchange rate moves unrelated to news can be due to the unwinding of carry trades when speculators near funding constraints. This idea is consistent with our findings that (i) investment currencies are subject to crash risk ... (ii) the carry, that is, interest rate differential, is associated with positive speculator net positions in investment currencies; (iii) speculators' positions increase crash risk; (iv) carry trade losses increase the price of crash risk but lower speculator positions and the probability of a crash; (v) an increase in global risk or risk aversion as measured by the VIX equity-option implied volatility index coincides with reductions in speculator carry positions (unwind) and carry trade losses." M. K. Brunnermeier, S. Nagel and L. H. Pedersen, "Carry Trades and Currency Crashes"; K. Rogoff, M. Woodford and D. Acemoglu (eds.), NBER Macroeconomics Annual 23 (2008) 313–347, at 314.

³³ The author's assumption here tallies well with Brunnermeier et al.'s observation that: "[FX market shocks] share several features of the 'liquidity spirals' that arise in the model of Brunnermeier and Pedersen (2009) ... shocks that lead to speculator losses are amplified when speculators hit funding constraints and un-wind their positions, further depressing prices, increasing the funding problems, volatility, and margins, and so on. Conversely, shocks that lead to speculator gains are not amplified." Ibid.

much-ignored global systemic risk that a more objective benchmark of currency values could contain, given the anchoring properties of such a benchmark, in the event of a generalized liquidity crisis. They can also disturb the natural/expected flows of investment capital to countries whose economic fundamentals are improving, or alternatively raise interest rates to make themselves a more attractive investment destination.³⁴

10.3.3 Cross-Border Financial Crises

Credit exposures in foreign currencies have historically proved a substantial source of financial stability and appreciable recession risk for two reasons. First, when another country's banks dominate the host's financial sector, home FX risk is transferred to the host's economy. For the devastating effects of this in the Baltic countries and elsewhere in the EU, a good analysis is offered by Ivaylo Jaydijev in Chapter 12 of this book. The second and more common scenario is when lots of loose or speculative foreign investment enters an emerging market and then at the first sign of macroeconomic difficulty or political and economic instability reverses course, wreaking devastation on the recipient country's economy and financial system. This was the typical form of international financial crisis in the 1980s and the 1990s. As observed in Buckley, Avgouleas and Arner (2017):³⁵

Short-term debt contributed significantly to East Asia's economic problems, particularly that not denominated in local currency. Short-term indebtedness increased significantly in 1995 and 1996 across the region ... The primary problem with foreign investment in the short-term debt of emerging markets is the fluidity of the investment. Adverse economic news is likely to halt the rolling over of outstanding debt upon maturity and thus resulting in net capital outflows. This risk is analogous to capital flights. The secondary problem is that these outflows may foment a collapse in investor confidence. When the short-term debt is not denominated in local currency, volatility is heightened because a substantial devaluation will decimate a local currency portfolio. Accordingly, the first signs of a pending devaluation will prompt a severe sell-off.

³⁴ A conclusion extrapolated from Brunnermeier et al. who note: "In the currency setting, we can envision a country suddenly increasing its interest rate and thereby attracting foreign capital ... In a frictionless and risk-neutral economy, this should lead to an immediate appreciation of the currency – associated with an inflow of capital – and a future depreciation of the exchange rate such that UIP holds. In the presence of liquidity constraints, however, capital only arrives slowly such that the exchange rate only appreciates gradually, occasionally disrupted by sudden depreciations as speculative capital is withdrawn. "Ibid. 315.

³⁵ Buckley, Avgouleas, Arner, *supra* n1, p. 6.

The problem is compounded in countries with weak financial sectors where the domestic financial system cannot serve as an effective intermediary to allocate funds to productive uses. So capital inflows often end up as speculative gambles in the stock and property markets, boosting in the process asset bubbles.³⁶ Such speculative investments often cannot generate the foreign currency reserves needed to repay foreign currency debt. As a result, faced with a steep yield curve, local banks succumbed to the dangerous temptation to borrow short and lend long, and largely did so without hedging their foreign exchange exposures. Especially in the context of the Asian financial crisis, indiscriminate international borrowing and domestic lending was common throughout the region, and when the bubble burst, domestic banks virtually collapsed in most countries in the region, particularly Indonesia, Korea and Thailand.³⁷ Moreover, premature liberalization of the banking sector in Thailand and elsewhere just made matters worse.

Over the last few years, concerns about foreign-currency exposure have shifted from banks, in spite of an explosion of bank FX borrowing and lending from the 1990s to 2014,³⁸ to FX exposure in the non-banking and corporate sector, including in major emerging markets such as China. In the aftermath of the Global Financial Crisis macroprudential measures were adopted to reduce bank lending and borrowing in foreign currencies, and thus the corresponding exposure of banks to currency movements. This goal is important since banks are key to the stability of financial system. Thus, regulators seek to insulate them from sharp currency movements. Empirical research shows that such measures have been effective in curbing FX risks in the banking sector.³⁹

On the other hand, the macroprudential FX regulations seem to have shifted a portion of currency exposure risks to sectors of the economy that lie outside the regulatory perimeter signalling a trend for FX risk migration from the regulated to unregulated sector. Anher, Forbes and Reinhart note that while these investors and other financial institutions may not be viewed as systemically important financial institutions, as they wouldn't enter bankruptcy even if they did suffer losses after currency movements,⁴⁰ still these operators, "may be less

³⁶ Shigemitsu Sugisaki, "Economic Crises in Asia" (Address at the 1998 Harvard Asia Business Conference, Harvard Business School, 30 January 1998).

³⁷ R. Dornbusch, "A Bail-out Won't Do the Trick in Korea," *Business Week*, December 8, 1997, 26; R. Garran, "Korea Crisis," *The Australian*, November 19, 1997, 36, col. 1.

³⁸ In fact, from the mid-1990s through to end-2014, total FX borrowing in international debt securities and bank loans more than tripled, to about \$12 trillion. See T. Anher, K. Forbes and D. Reinhardt, "Macroprudential FX Regulations: Shifting the Snowbanks of FX Vulnerability?" MIT mimeo, Dec. 28, 2017, p. 3, http://web.mit.edu/kjforbes/www/ShiftingSnowbanks_2017_12_28.pdf.

³⁹ *Ibid.*, p. 7.

⁴⁰ *Ibid.*

well informed than banks, less able to screen for the risks inherent in corporate borrowing in FX, and potentially less able to handle any subsequent losses after a depreciation.”⁴¹

Therefore, shifting currency risk to the non-bank sector could increase systemic risk in ways that could be harder to monitor and assess, especially as these institutions (e.g., hedge funds, cross-border money brokers etc.) and large corporates are outside the regulatory perimeter.

While a first approach to account for the impact of such leakages is to incorporate this scenario into macroprudential analysis, the macroprudential framework has thus far not proved effective for non-financial sector firms, making thus the case of an anchoring benchmark even more compelling.

10.4 If Full International Coordination or the Revival of Bretton Woods Arrangements is not Expected, What are the Alternatives?

10.4.1 Overview

International co-ordination of monetary policies of the type achieved, in a sense, by the Bretton Woods arrangements is not universally advocated. For example, the eminent US economist Barry Eichengreen indicates that international coordination of lax national monetary policies might not have led to financial markets losing confidence in national currencies during the height of Depression-era ”beggar thy neighbor” action,⁴² but the overall macroeconomic gains from international policy coordination would be relatively small. However, Eichengreen hastens to add that the situation is much different today, since the so-called extraordinary monetary policy programs undertaken by the developed countries, especially in the period between 2008 and 2011, were entirely uncoordinated and inflicted considerable losses on the growth rate of emerging economies.⁴³ This section will examine the effectiveness of already available and possible future remedies against currency wars, acknowledging that stronger international cooperation may not be feasible in the current climate.

⁴¹ Ibid.

⁴² B. Eichengreen, ”Currency War or International Policy Coordination?” mimeo, University of California, Berkeley, January 2013, https://eml.berkeley.edu/~eichengr/curr_war_JPM_2013.pdf.

⁴³ Ibid.

10.4.2 Remedies Embedded in the International Monetary (IMF) and Trade (WTO)

Legal Orders: Why Are They Ineffective?

10.4.2.1 Article IV of the IMF Articles

Following the breakdown of the Bretton Woods arrangement in 1971, a new version of Article IV was added to the IMF Articles of Agreement that became effective in 1978 and which prohibits currency manipulation for the purpose of gaining unfair trade advantage. This was the least that could be done in view of the collapse of the previous regime, but it doesn't necessarily mean that the IMF can force a country to change its exchange rate policies. In specific, the amended Article IV, which went into effect in 1978 said that countries should seek, in their foreign exchange and monetary policies, to promote orderly economic growth and financial stability, and they should avoid manipulation of exchange rates or the international monetary system *to prevent effective balance of payments adjustment or to gain unfair competitive advantage over other members*.⁴⁴ Policies are not in violation of Article IV when they are not seeking to gain competitive advantage (though this may be the result of their actions) but rather *to stabilize the value of their currency in order to prevent disruption to their domestic economic system*.

The amended Article IV also required the IMF to “exercise firm surveillance over the exchange rate policies of all members and [to] adopt specific principles for the guidance of all members with respect to those policies.” The IMF adopted the requisite guidance in 1977 (before the amendment went into effect) and updated it in 2007. The 1977 agreement said that, among other things, “protracted large-scale intervention in one direction in exchange markets” might be evidence that a country was inappropriately manipulating the value of its currency.⁴⁵ The 2007 agreement added a key requirement to the effect that “[a Fund] member should avoid exchange rate policies that result in external instability.”⁴⁶ When a country's current account (balance of payments) is not in equilibrium, the IMF said in its explanation of

⁴⁴ Section 3 (iii) of the amended Art. IV which became effective in 1978 allows countries to maintain fixed rates or to adopt floating or market-based rates of exchange for their national currencies. The IMF must approve the exchange system countries adopt but it no longer has a role in determining relative currency values. See IMF, “Article IV of the Fund's Articles of Agreement: An Overview of the Legal Framework” briefing prepared by the Legal Department, 28 June 2006, www.imf.org/external/np/pp/eng/2006/062806.pdf.

⁴⁵ Ibid.

⁴⁶ IMF, “IMF Surveillance – the 2007 Decision on Bilateral Surveillance,” Factsheet, June 2007.

the new provision, the exchange rate is “fundamentally misaligned” and “should be corrected.”⁴⁷

In a June 2007 Executive Board Decision on Bilateral Surveillance⁴⁸ (retained in a later decision of July 2012 that included multilateral surveillance),⁴⁹ the IMF added “a concept of external stability as an organizing principle for bilateral surveillance,” whereby “[e]xternal stability encompasses both the current account of the balance of payments – and thereby also issues of exchange rate misalignment – and the capital account of the balance of payments”. In the IMF’s words: “the [2007] Decision add[ed] a principle recommending that members avoid exchange rate policies that *result* in external instability, regardless of their purpose, thereby capturing exchange rate policies that have proven to be a major source of instability over the past decades.”⁵⁰ This broadened the scope of surveillance rather than the Article IV requirement that members manipulating their currency act inconsistently with Article IV principles if they do it for the *purpose* of gaining unfair competitive advantage. The latter required the Fund to establish that the objective of the policies in question was to undervalue the currency to increase net exports. So in practice, the effect of this broader language is unclear.

The Annex to both the 2007 and 2012 IMF surveillance decisions clarifies that “[a] member would only be acting inconsistently with Article IV, Section 1(iii) if the Fund determined both that: (a) the member was manipulating its exchange rate or the international monetary system and (b) such manipulation was being carried out for one of the two purposes specifically identified in Article IV, Section 1(iii).” The two purposes are: “(a) ‘Manipulation’ of the exchange rate is only carried out through policies that are targeted at – and actually affect – the level of an exchange rate. Moreover, manipulation may cause the exchange rate to move or may prevent such movement ... (b) ... [and] such manipulation [is] being undertaken in order to prevent effective balance of payments adjustment or to gain an unfair competitive advantage over other members.”⁵¹ In that regard, a member will only be considered to be manipulating exchange rates in order to gain an unfair competitive advantage over other members if the Fund determines both that: “(A) the member is engaged

⁴⁷Ibid.

⁴⁸ IMF, “Public Information Notice: IMF Executive Board Adopts New Decision on Bilateral Surveillance Over Members’ Policies,” PIN 07/69, June 21, 2007, www.imf.org/en/News/Articles/2015/09/28/04/53/pn0769#decision.

⁴⁹ IMF, “Public Information Notice: IMF Executive Board Adopts New Decision on Bilateral and Multilateral Surveillance,” PIN 12/89, July 30, 2012, www.imf.org/en/News/Articles/2015/09/28/04/53/pn1289.

⁵⁰ IMF 2007 Decision on Bilateral Surveillance.

⁵¹ Annex s. 2.

in these policies for the purpose of securing fundamental exchange rate misalignment in the form of an undervalued exchange rate and (B) the purpose of securing such misalignment is to increase net exports.”⁵² This dual-purpose requirement is very restrictive, since as explained in a briefing of the IMF’s legal department, “determination of intent [is] required” to be in breach of Article IV.⁵³

Moreover, the 2007 Decision offered a number of plausible caveats. First, as is stated in the IMF decision itself, estimates of misalignment require the exercise of careful judgment. In practice, an exchange rate would only be judged to be fundamentally misaligned if the misalignment is found to be *significant*. The benefit of any reasonable doubt would be given to the authorities in establishing whether fundamental misalignment is present, and the potential market-sensitivity of estimates of misalignment was emphasized.⁵⁴

In specific, the IMF defines a number of criteria that will use to in its surveillance of member state compliance with the rules against fundamental misalignment:⁵⁵

- large-scale intervention in one direction in the exchange market;
- excessive and prolonged official or quasi-official accumulation of foreign assets; and
- large and prolonged current account deficits or surpluses.

These criteria have proved ineffective for a number of reasons. First, assuming that QE and extraordinary low interest rates are captured by this framework, states engaging in extraordinary monetary policies can plead that their purpose is to revive the domestic economy or counter the threat of deflation and recession, rather than manipulation of their currency. Secondly, they can argue that the pursuit of independent monetary policy is outside the remit of the IMF Agreements. In addition, a policy that leads to a revival of demand, especially in a major economy like the USA or a trade bloc like the eurozone, ultimately benefits imports as well and not just exports. Either way, in the case of the USA a reduction of trade deficits means a beneficial rebalancing of the global economy. These arguments are very hard to refute in the absence of a mechanism that offers an objective indication of currency value. Third, there is the problem of what is large and prolonged, especially if the “manipulation” doesn’t happen through formal devaluations or other patently unsubtle ways

⁵² Ibid.

⁵³ “[A] specific obligation under Article IV, Section 1 is the requirement that members “avoid manipulating exchange rates or the international monetary system in order to prevent effective balance of payments adjustment or to gain an unfair competitive advantage ... the potential applicability of the obligation to avoid manipulation is constrained by the need to determine intent.” IMF Briefing, “An Overview of the Legal Framework,” 2; see also *ibid.*, 15–16.

⁵⁴ IMF 2007 Decision on Bilateral Surveillance.

⁵⁵ Ibid.

such as exchange market intervention or foreign asset accumulation for a long time. Clearly there are other more subtle ways at a state's disposal to achieve a similar outcome, such an expansionary monetary policy.

Fourth, there is always the defense that is frequently used by the German governments about their high and persistent trade surpluses. Namely, that these are due to structural discrepancies in economic competitiveness and productivity and not currency misalignment, rendering the third criterion of the IMF Guidance redundant. Finally, the IMF can exercise "firm surveillance," and it has made a genuine effort to revamp its financial surveillance in recent years to include a more macroprudential/systemic strategy,⁵⁶ but it cannot compel a country to change its exchange rate. Nor can it order commercial foreign exchange dealers to change the prices at which they trade currencies. All it can do is offer economic advice and discuss how changes in countries' exchange rates might be in their own interest.⁵⁷ However, in the end, the authority to make the change resides with the country alone.

10.4.3 Currency Manipulation and the WTO

The WTO seeks to expand international trade through the reduction or elimination of tariffs or other barriers to trade while the IMF pursues this goal mainly through efforts to promote international monetary and exchange rate stability. Trade policy issues may feature prominently in the IMF's surveillance, but as we have already explained there is probably no effective enforcement mechanism in the case of currency manipulation given the discussed above very high burden of proof. Unlike most other major international trade and finance bodies, the WTO has a mechanism for enforcing its rules. If a member country feels aggrieved by the conduct of another which it deems to be in violation of WTO rules, it may request the appointment of a dispute settlement panel to hear its complaint. The country complained of cannot block the establishment of a panel which reviews the arguments of both parties and renders judgment on whether a breach of the WTO rules has taken place. If the losing party does not comply with the decision of the panel within a reasonable timeframe

⁵⁶ See IMF, "The IMF's Financial Surveillance Strategy," August 28, 2012, www.imf.org/external/np/pp/eng/2012/082812.pdf and IMF, "Triennial Surveillance Review – Managing Director's Action Plan for Strengthening Surveillance," December 2014, www.imf.org/external/np/pp/eng/2014/112114.pdf.

⁵⁷ The IMF can also "provide a forum, such as its new multilateral consultation mechanism or discussion on the IMF executive board, where other countries can urge a country to change its exchange rate procedures."

then the WTO may authorize the endorsement of countervailing measures by the complaining party.

The WTO rules that can be invoked in this case is the prohibition of export subsidies⁵⁸ and WTO members are entitled to levy countervailing duties on imported products that receive subsidies from national government. Arguably, an undervalued currency lowers a firm's cost of production "relative to world prices and therefore helps to encourage exports." But, whether undervaluation of a country's currency, even if it proves to be intentional, amounts to an export subsidy under the WTO's current definition of the term⁵⁹ is highly debatable.

The term has a precise definition in the WTO Agreements which requires that there must be a financial contribution by a government to the exporter or some other form of income or price support. In addition, an export subsidy is a subsidy that is "contingent on export performance." They must also be "specific to an industry," and not provided generally to all producers.⁶⁰ Therefore, the WTO prohibition of export subsidies is very narrow and specific and does not seem to encompass currency manipulation.

The IMF and WTO could use their interagency agreement⁶¹ to promote better coordination in the treatment of this concern.⁶² The IMF and GATT signed an agreement aimed at facilitating inter-agency cooperation soon after the trade organization was formed in 1947. The IMF and WTO adopted a revised and updated version of that agreement in 1996. The two organizations agreed (in paragraphs 1 and 2 of the agreement) that they "shall consult with each other in the discharge of their respective mandates," with a view towards "achieving greater coherence in global economic policymaking." Article XV of the GATT agreement says that the WTO shall cooperate with the IMF in order to "pursue a coordinated policy with regards to exchange questions that are within the jurisdiction of the Fund." The WTO and IMF also agreed in 1996 (in paragraph 8) that they would communicate with each other about "matters of mutual interest."⁶³ WTO dispute settlement panels are specifically excluded from this agreement to communicate, but the agreement says that the IMF shall inform the WTO

⁵⁸ WTO Agreement on Subsidies and Countervailing Measures, Arts. 2–3.

⁵⁹ See J. E. Sanford, "Currency Manipulation: The IMF and WTO," Congressional Research Services, January 28, 2011, p. 2, <https://fas.org/sgp/crs/misc/RS22658.pdf>.

⁶⁰ For more discussion see Sanford *ibid.*, p. 3.

⁶¹ Agreement Between the International Monetary Fund and the World Trade Organization, para. 2, republished in IMF, Selected Decisions and Selected Documents of the International Monetary Fund, 31st Issue, Washington DC, December 31, 2006. NB: the preamble to the agreement acknowledges that there are increasing links between the issues addressed by the two institutions and it notes that the Marrakesh Agreement, establishing the WTO, called for greater coherence internationally in economic policies.

⁶² Sanford, *supra* n. 59, pp. 8–9.

⁶³ For a very comprehensive discussion of the IMF/WTO agreement and quotes see Sanford, *ibid.*, pp. 4, 8.

(specifically including its dispute settlement panels) when the WTO is “considering exchange measures within the Fund’s jurisdiction [in order to determine] whether such measures are consistent with the Articles of Agreement of the Fund.”⁶⁴ The IMF also agreed, in 1996, that it would participate in any WTO discussion of any such measures countries may have taken to safeguard their balance of payments. But in the absence of an amendment of the WTO Treaties and IMF Articles which would allow a relevant complaint to be adjudicated by the WTO panels, it is very hard to see what “teeth” this cooperation has, and indeed so far, it has not produced any binding legal action in this context.

Of course, the WTO Agreements (or even the Articles of Agreement of the IMF) could be amended to make their treatment of currency manipulation more consistent. Equally, negotiations may be pursued, on a multilateral as well as a bilateral basis, to resolve currency manipulation disputes on a country-by-country basis without changing the IMF or WTO treatment of this concern. But in the current climate such amendment looks far-fetched even though more than necessary.

Given perceived difficulties to achieve the said change in the WTO/IMF agreements another solution would be to insert relevant clauses and enforcement mechanisms into bilateral or regional trade agreements. Naturally, as it has been accurately noted linking exchange rate to trade agreements would be historically unprecedented.⁶⁵ At the same time, currency manipulation can in the end prove to be unsubstantiated, or reversible, as has been the case with China, whose currency has appreciated by 40 percent against the US dollar in the past few years.⁶⁶ Either scenario makes it impossible to take measures under the IMF Articles or the WTO provisions, and probably under those of a future regional or bilateral Treaties. But linking trade and investment and financial flows to some notion/binding understanding of relative exchange rate stability is, in principle, a good idea. Relevant understanding might have to move away from the IMF definitions and framework to make enforcement a realistic prospect giving it a deterrent value, but it is nevertheless an idea worth exploring. In fact,

⁶⁴ Earlier (in paras. 3 and 4), the IMF agreed that it would inform the WTO about any decisions it had made approving any restrictions a country might impose on international payments, discriminatory currency practices, or other measures aimed at preventing a large or sustained outflow of capital.

⁶⁵ F. Bergsten, “Addressing Currency manipulation through Trade agreements,” Policy Brief 14–2, Peterson Institute for International Economics, January 2014, 1, <https://piie.com/publications/pb/pb14-2.pdf>. As Bergsten hastens to add: “Currency issues and trade agreements, indeed virtually all trade policy issues, have traditionally been handled under separate negotiations and legal constructs and by different institutions at both the national and international levels. Integrating them would require fundamental changes in the conduct of international economic policy in the United States and around the world.” Ibid.

⁶⁶ T. Worstall, “Bad News For Allegations Of Currency Manipulation: IMF Says China’s Yuan Correctly Valued,” *Forbes, Economics & Finance*, May 26, 2015, www.forbes.com/sites/timworstall/2015/05/26/bad-news-for-allegations-of-currency-manipulation-imf-says-chinas-yuan-correctly-valued/#2c70c5065d94.

adding a clause on currency manipulation to bilateral and multilateral trade agreements, such as the currently negotiated Transatlantic and Transpacific Trade Agreements, has been widely promoted by US think tanks.⁶⁷

Naturally, such an initiative would still face several key obstacles. First, any workable clause would inevitably not mirror the IMF guidelines,⁶⁸ meaning more fragmentation instead of the required integration of the international trade and monetary orders. Furthermore, determining the existence and extent of currency misalignment, especially as a possible trigger for remedial action, has historically proven enormously difficult both intellectually and politically. So why the problem of objective evidence would be different in this case? It has thus been suggested that the determination of “misalignment” be ignored in favor of more straightforward and objective indicators.⁶⁹ The goal of the exercise would be simply to prevent a country from running large and persistent external surpluses that result from efforts to depress the value of its exchange rate in the currency markets.⁷⁰

However, these ideas still revolve around the concept of “intervention,” seen as “substantial amounts of direct purchases of foreign exchange with local currency.” As in some case this will involve secretive sovereign wealth funds, the picture would still be less than a crystal-clear. Worse, the concept of “intervention” is far less convincing in the case of “indirect intervention” through capital controls, uncoordinated macroprudential and monetary policies such as quantitative easing (QE),⁷¹ or even loose fiscal policies, all of which have an impact on private capital outflows and, as is likely, exchange rates.

For all of the above reasons, and in order to resolve the present conundrum which spreads mistrust in all parts of the rules-based global economic order, this chapter suggests instead in section 10.5 a more objective mechanism/benchmark to measure currency values. The creation of such a benchmark may play a pivotal role at some point in the future when the

⁶⁷ Bergsten, *supra* n.65, pp. 4–5.

⁶⁸ See M. Solis, “The Answer is Still NO on a Currency Manipulation Clause in the TPP,” *Brookings op-ed*, 15 January 2014, www.brookings.edu/blog/up-front/2014/01/15/the-answer-is-still-no-on-a-currency-manipulation-clause-in-the-tp/.

⁶⁹ J. Gagnon, “The Elephant Hiding in the Room: Currency Intervention and Trade Imbalances” Peterson Institute for International Economics Working Paper 13–2, March 27, 2013, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2238170.

⁷⁰ See Bergsten, *supra* n.65, pp. 4–5.

⁷¹ Even empirical studies conducted by doubters have found that extraordinary monetary policies have an appreciable impact on current account imbalances, albeit in their view only when capital mobility is low, with the implication being that in the case of financially integrated countries this impact dissipates over time. See J. E. Gagnon, T. Bayoumi, J. M. Londono, C. Saborowski and H. Sapriza, “Direct and Spillover Effects of Unconventional Monetary and Exchange Rate Policies” IMF WP/17/56, March 13, 2017, www.imf.org/en/Publications/WP/Issues/2017/03/13/Direct-and-Spillover-Effects-of-Unconventional-Monetary-and-Exchange-Rate-Policies-44743.

present cycle of mistrust in international trade has fizzled out. In specific, it will make it possible to implement a currency monitoring regime that will look firmly into excessively loose monetary policies that destabilize global trade. In reality what the world faces today, apart from the diminishing goodwill in international trade, is the absence of any benchmark that could objectively approximate fundamental currency values.

Still, even if the issue of a relatively objective measurement of currency values is addressed, other problems will remain from the point of view of political economy analysis. First, why would the US government wish to do such a thing in the end, beyond talking about it, when it has itself been guilty of weakening the dollar on many occasions? It was in fact the US that brought down the Bretton Woods fixed to floating rates post-Smithsonian, with two unauthorized devaluations of the dollar in 1971. Secondly, why would US trade counterparts accept such a commitment when, at the same time, the US will be demanding safeguards on wage levels and environmental standards from its negotiating partners. While these concessions could correct some of the deficiencies of existing NAFTA and WTO, they also fundamentally alter the post-1994 trade status quo which brought immense wealth and prosperity to countries like China, but seems to have weakened the US economy overall. What would US trade partners demand then to also abolish the weapon of exchange rate re-alignment?

10.4.4 A Composite Benchmark of Value?

There is currently an accentuated trend in the international sphere to use composite indices to further public interest/social good goals. For example, respected Franco-German economists have suggested a composite index of GDP values to be built as a form of a tradable synthetic euro-asset that would replace member states' bonds in eurozone bank balance sheets, thus resolving the infamous "doom loop" under which bank over-indebtedness or a financial crisis can soon morph into a sovereign debt crisis, and vice versa.⁷² Similarly, the EU Commission is toying with the idea of client indices to foster sustainable finance investments.⁷³ While

⁷² "Exploring a euro area-level 'safe asset' that could be scaled up in conjunction with the regulatory incentives to reduce the home bias of banks." See A. Bénassy-Quéré, M. K. Brunnermeier, H. Enderlein, E. Farhi, M. Fratzscher, C. Fuest, P.-O. Gourinchas, P. Martin, F. Pisani, H. Rey, I. Schnabel, N. Véron, B. Weder di Mauro and J. Zettelmeyer, "Reconciling risk sharing with market discipline: A constructive approach to euro area reform," CEPR Policy Insight No. 91, January 2018, p. 4, https://cepr.org/sites/default/files/policy_insights/PolicyInsight91.pdf.

⁷³ See EU Commission Communication, "Action Plan: Financing Sustainable Growth," Brussels, 8.3.2018, COM(2018) 97 final, esp. para. 2.5 (Sustainability Benchmarks), <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0097>.

both of these proposals may be open to the charge of inducing excessive financialization, the index suggested here is intended to have the opposite effect: namely to stabilize FX markers. It could curb excessive speculation/volatility in FX markets and also unmask predatory countries.

It is thus suggested that a global unit of account (GUOA) could be created that would be freely tradable in the same way that virtual currencies are, which will have an exchange rate with SDRs but its composite value will be made of easily observed and uncorrelated indices of value. The GUOA may serve as an alternative and objective measure of value if it is not directly dependent on trade flows and other highly volatile measures. The idea is to create a system that would measure national fiscal and macroeconomic health against global trends rather than just focusing on the balance of payments of trade partners. To this effect and on the basis of extensive empirical research into the most representative indications of global macroeconomic trends, it is suggested here that the GUOA first of all should measure: (a) the rate of (global) GDP growth, (b) volatility (change in value) of global commodity and energy prices, (c) the volatility (change in value) of the key global stock market indices. Each of the three indicators (GGDP+GCVC-E+GSI) could be allotted one-third of the overall value of the GUOA, since we have no reliable data as to which of the three is the more representative. Then the GUOA's appreciation/decline will be compared with the growth in the value of the country's imports or exports for a given year, represented in SDRs. E.g., if the GUOA has appreciated by 5 percent and the country's imports by 7 percent, whereas its exports have appreciated by 3 percent, this is an objective though imperfect (since country productivity rates and structural or cyclical competitive advantage are not measured) indication that this country's currency is overvalued, whereas those of its trade partners are undervalued, and so on. The onus is then on its trade partners to explain themselves to the WTO or the adjudicating body of a future multilateral or bilateral trade treaty that would incorporate an anti-manipulation clause.

The GUOA index suggested here has several *prima facie* advantages which could help rebuild trust in the international economic sphere. First, it is not bound to any particular reserve currency. Secondly, it is built on such a broad base that it cannot be manipulated. Third, it is rather representative of the economic reality and prospects of both developed and developing countries. Thus, while the stock exchange index, which is an internally uncorrelated composite index, as developed world economies do not have symmetrical growth and stock market cycles, will be over-weighted in developed world economies, the

global energy and commodity index will be representing the high price volatility that commodity exporters (mostly developing nations) and energy producers experience.

10.5 Conclusion

Relative stability in currency values or avoidance of excessive instability is essential for the development of global trade and investment and for cross-border financial stability. One would call it a global public good, which like all such goods is often subject to “tragedy of the commons” situation presenting a short-sighted trade advantage to predatory countries, or market speculators. The international financial order generically lacks any credible enforcement mechanism against currency manipulation practices and is thus impotent to buttress cross-border financial stability in the event of a widespread cross-border currency run. At present the only workable measures seem to be capital controls, which, however, are a very blunt instrument and in many cases they might go on for very long, in spite their evident short-term benefits. They should be used as the last and not the first resort measure. In addition, the international trade and monetary orders have proved very weak enforcers of the IMF’s currency tampering prohibitions. Arguably, this is not so much due to lack of will as to the fact that a mechanism approximating an objective benchmark of currency values is largely missing.

The fact that the present the international framework doesn’t have effective tools to control “currency wars” creates conditions of heightened mistrust in the global economic sphere. To this effect this chapter has suggested an objective, transparent and impossible-to-manipulate reference unit of account which can be used to test present currency value and given an objective indication of under- or overvaluation. Arguably, a collateral (yet virtuous) effect of the use of the suggested objective benchmark (or of any equivalent measure) is the deceleration of currency wars and of their impact on the propagation of geopolitical risks. In addition, given widely observed stagnation in the evolution of the global financial architecture, especially in the areas where cooperation is required the most, namely, the field of cross-border macroprudential policies, any idea that can offer a new impetus to the process ought to be welcome, unless terribly flawed. Clearly a transparent benchmark of value is the first step in a long process aiming at the containment of speculative currency trades such as the carry trades. It also builds stores of trust for the rethink of the global financial architecture with a view of aligning it closer to trade and investment rather than mostly buttressing the loose money flows discussed in this chapter.

Much of the social utility of the gigantic cross-currency flows discussed here is questionable, given their “recycling” nature away from the needs of the real economy. On the other hand, the possible social cost of those trades coming unstuck, in the event of a global liquidity shock, could prove incalculable. Therefore, any steps towards realignment of the global financial order with those for trade and investment would inevitably prove a great boon to global financial stability and can provide a solid basis to restart transnational cooperation efforts in the sphere of international financial governance and beyond.